

NORTH AMERICAN DISTRIBUTION OF *COCCINELLA U. UNDECIMPUNCTATA* L. (COLEOPTERA: COCCINELLIDAE)

W. Y. WATSON

Department of Biology, Wilfrid Laurier University,
Waterloo, Ontario, Canada N2L 3C5

The recorded distribution of *Coccinella u. undecimpunctata* L. indicates that it is found in North America in two widely separated areas. In the east it is found along the Atlantic Coast, the St. Lawrence Valley and as far west as the western end of Lake Ontario (Brown 1962; Hicks 1971). A separate and unrelated introduction has taken place on the west coast (Russel 1968; Belicek 1976).

The following are records of recovery points additional to those recorded earlier. They extend the known distribution (Fig. 1) of this species significantly and give some indication how the species may have been introduced into the more inland areas.

New York State: East Marion, 1944; Greenport, 1944; Ghent, 1968; Ithaca, 1969; Orient, 1931; Riverhead, 1957; Rossie, 1963. *Massachusetts*: Lynn Beach, 1925. *New Brunswick*: Fundy National Park, 1954. *Ontario*: Collingwood, 1973; Guelph, 1977; Harrow, 1977; London, 1969; Manitoulin Is., 1968; Port Stanley, 1973; Toronto, 1972; Waterloo, 1974. *Prince Edward Is.*: Brackley Beach, 1940. *Quebec*: Baie St. Paul, Becancour, 1968; Berthierville, 1970; Richelieu, 1968; St. Augustin, 1971; St. Louis, 1970; St. Foy, 1969; Sorasboro, 1965.

Specimens collected in 1967 in the Montreal area were taken from corn growing adjacent to the St. Lawrence Seaway shipping canal. The Toronto specimens were collected on the islands in the harbour area. Those from

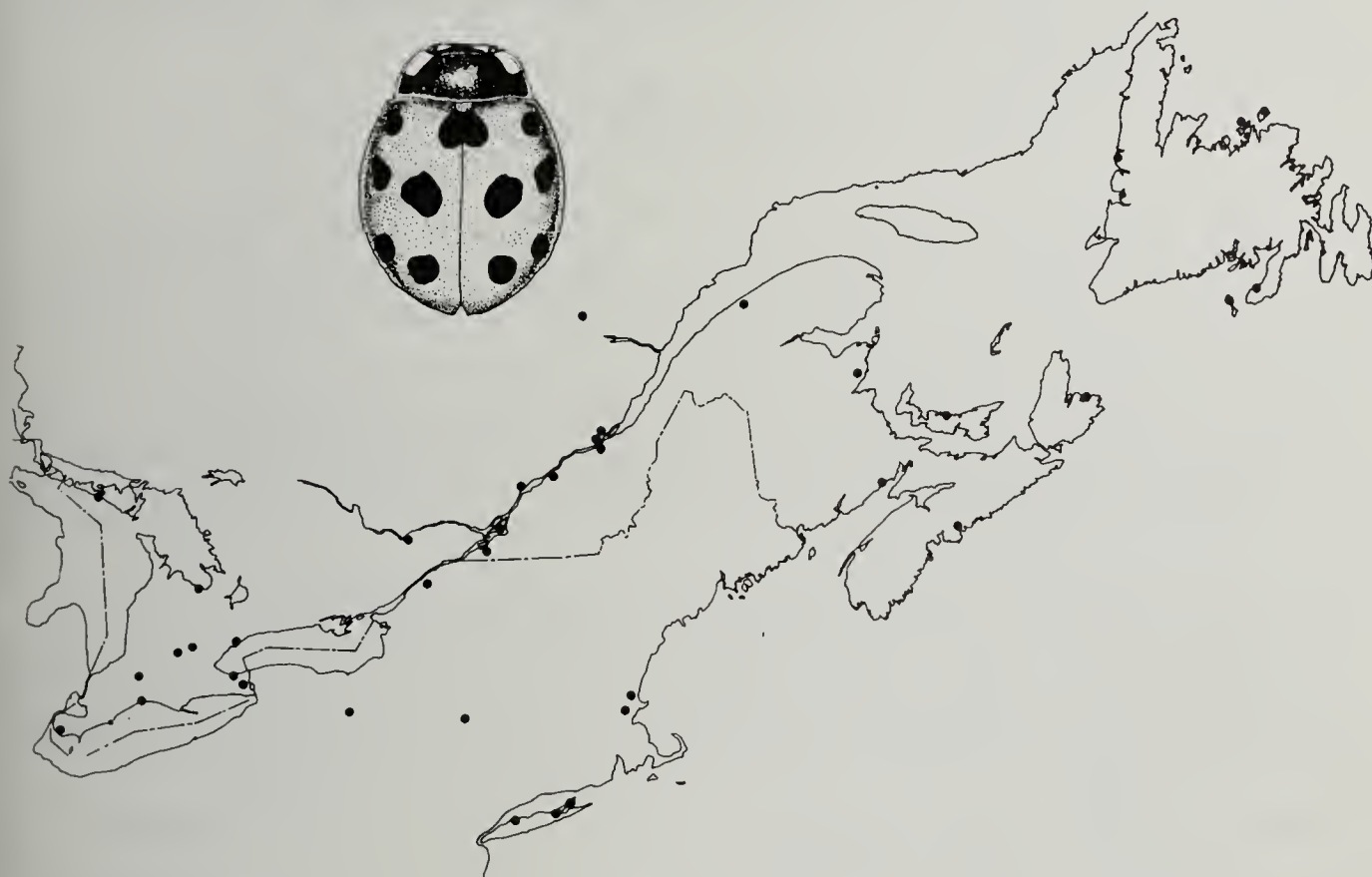


Fig. 1. Distribution of *C. u. undecimpunctata* in eastern North America.

Collingwood and Port Stanley were picked from *Melilotus* sp. growing along the waterfront. And finally, the Manitoulin Island collection was made from weeds on the southwest side of the island along the shores of Lake Huron.

C. u. undecimpunctata appears to have been restricted to the northeastern coastal part of the continent and the St. Lawrence valley until some time in the late 1950's when it began to appear at more inland stations along the Great Lakes. The saline conditions, suggested as necessary by Dobzhansky (1931), do not seem to be essential for the species was well established before 1962 at Montreal (Roberts 1962), where contact with salt water is not possible. Records west of Montreal have all occurred since 1957 when the St. Lawrence Seaway opened the Great Lakes system to maritime shipping. The evidence suggests that *C. u. undecimpunctata* has been moved inland and introduced at a number of locations along the Great Lakes.

The records from south-western Ontario (Guelph, Harrow, London, Waterloo) indicate that, having been introduced, the species has become established and has spread into more inland areas. The central New York state records may have resulted from a movement south from the Great Lakes or a slower movement westward from the original coastal points of introduction. If the latter is the case, some 60 years have been required for a shift of 640 kilometres across the mountain barriers. This contrasts markedly with the movement from Montreal, Quebec to Manitoulin Island, Ontario, a distance by water of 1760 kilometres in less than 20 years.

The rapid spread in the Great Lakes basin suggests that the movement mechanisms responsible for the distribution of *C. u. undecimpunctata* were artificial rather than natural.

The western occurrence of this introduced species will be interesting to watch. At present the distribution is local around Seattle, Washington (Russel 1968) and Vancouver, B.C. (Belicek 1976).

I thank Dr. L. L. Pechuman, Mr. R. Morrissette and Mr. W. Edmonds for providing some of the records.

LITERATURE CITED

- BELICEK, J. 1976. Coccinellidae of Western Canada and Alaska with analyses of the transmontane zoogeographic relationships between the fauna of British Columbia and Alberta (Insecta: Coleoptera: Coccinellidae). *Quaest. Ent.* 12:283-409.
- BROWN, W. L. 1962. A revision of the forms of *Coccinella* L. occurring in North America north of Mexico. *Can. Ent.* 94:785-808.
- DOBZHANSKY, T. L. 1931. The North American beetles of the genus *Coccinella*. *Proc. U.S.N.M.* 80(Art.4):1-32.
- HICKS, S. D. 1971. Comments on certain Coleoptera from the extreme southern Ontario and Ottawa districts. *Coleopt. Bull.* 25:103-106.
- ROBERT, A. 1962. Acclimation des certains insectes au climat du Quebec. *Ann. Ent. Soc. Que.* 7:93-95.
- RUSSEL, L. 1968. Recently introduced beetles in the Pacific northwest. *Coleopt. Bull.* 22:62-63.